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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/537,450	03/27/2000	Ashish Kishor Lele	U012676-7	4563

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EXAMINER

ZALUKAEVA, TATYANA

ART UNIT

PAPER NUMBER

1713

DATE MAILED: 07/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/537,450

Applicant(s)

LELE ET AL.

Examiner

Tatyana Zalukaeva

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The request filed on 05/29/2003 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 0/9537,450 is acceptable and a CPA has been established. An action on the CPA follows.
2. Claim 18 is amended to introduce the limitation that a multifunctional monomer itself contains hydrophilic and hydrophobic functional groups in a specific molar ratio.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 18-44 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The recited molar ratio of hydrophobic groups to hydrophilic groups on one and the same polymer is not supported in the instant specification. If Applicants regard that this limitation is inherently disclosed in the instant specification by specifying the monomers having both hydrophilic and hydrophobic groups, as per page 5 and page 6, table 1, applicants should acknowledge that if

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Examiner recites identical monomers in her rejection, the limitation of molar ratio is also inherently met by the prior art.

5. Claims 18, 19, 24-37 and 43 stand under 35 U.S.C. 103(a) as obvious over Mertens et al (U.S. 5,408,019) in combination with Applicants' admission of the prior art.

Martens discloses a method of making a cross-linked, water-absorbent polymer obtainable by the polymerization of a mixture consisting of a) 60-99%-wt. unsaturated, polymerizable monomers with acid groups which are neutralized to the extent of at least 30 mol-%, b) 0-37%-wt. monomers copolymerizable with a), c) 0.1-3.0%-wt. of a cross-linking agent and d) 0-10%-wt. of a water-soluble polymer, in which polymerization is conducted with a redox catalyst system containing formamidine sulfinic acid as reducing agent. (see abstract).

The process steps are conveniently described in working Example 1 in col. 5, wherein the steps are

- a) mixing monomers with crosslinking agent and free radical initiator, such as *tert*-butyl hydroperoxide
- b) subjecting mixture to polymerization;
- c) removing polymer, crushing and screening polymer;
- d) washing and drying polymer

The residual monomer content is determined by HPLC (col.4, line 67).

With regard to the ratio of hydrophilic and hydrophobic groups in comonomers or in one monomer, as per instant claim 18, Martens provides Example 13 and Table 3, wherein the comonomers are acrylic acid and AMPS, AMPS is the monomer of the instant claim 18, which has hydrophilic and hydrophobic groups, and is the very monomer exemplified by Applicants in their specification, as the one having hydrophilic and hydrophobic groups.

With specific regard to claims 25-29 Martens monomers and their amounts in a copolymerization mixture set forth in col. 3, lines 20-55 and in working examples commensurate in scope and content with the instant claims.

The solvent of Martens is preferably water, (col. 3, lines 55-60) the polymerization is carried out in aqueous solution. (see examples 1-17.). The monomers and crosslinking agent are dissolved in water so that the monomer concentration of the polymerization mixture amounts to 20-35% (col. 3, lines 58-60).

Hydroperoxides and azocompounds are used as a part of catalytic system. The disclosure of Martens provides identical monomers and catalyst, as well as the mode of polymerization except for the step of swelling a polymer in an alcohol to obtain a polymeric absorbent. However, on pages 2 and 3 of the Specification Applicants admit **that it is conventional to swell the absorbent polymers in an alcohol to obtain an absorbent gel**, as done for example with identical polymers in U.S. 5,641,890 to Wesley.

Therefore, one skilled in the art would have found it obvious at the time the invention was made to swell the resulting polymer of Martens in alcohol as done by

Wesley for similar polymer and for similar purpose in order to obtain the absorbing gel and thus to arrive at the missing conventional step step as per instant claim 18.

6. Claims 18- 44 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Wesley (U.S. 5,641,890).

Wesley discloses a process for making a polymer and **gelled organic liquids** by using in combination with an amine neutralized anionic polymer and an auxiliary rheological additive. The auxiliary rheological additive is a substance which increases the linearity of the anionic polymer and its thixotropic properties. Suitable auxiliary rheological additives are **amphoteric oxides** and/or fatty acids and/or fatty **acid salts**. The organic liquids that can be effectively gelled are organic solvents which include fuels such as hydrocarbons and **alcohols**. (see abstract).

The gelled solvents of Wesley contain 0.1 to 10% of an anionic polymer and 0.1 to 10 % of an auxiliary rheological additive (col. 2, lines 47-50). The said rheological additive is a transition metal salt of long chain fatty acids, the metals are listed in col.12, lines 40-50, which are preferably used in the range of 0.02 to 2%. (for example, 200 ppm is 0.2%) This covers the limitations of the transitional metals present in a polymerization and their amounts, as per instant claims 1,3, 4 and 5.

Amine neutralized anionic polymers contemplated within the scope of Wesley's disclosure comprise polyacrylic acid polymers such as the CARBOPOLS, sulfonated polymers containing a sulfonate functionality, as well as copolymers containing a maleic anhydride functionality, such as a crosslinked GANTREZ.

Exemplary of the cross-linked polyacrylic acid-type agents are Carbopol 941, Carbopol 676, Carbopol 940 and Carbopol 934 (col. 5, lines 49-60, col.6, lines 45).

Polyacrylic type monomers in combination with other comonomers, such as styrene, maleic acid, 2-hydroxyethylacrylate can also be used (col. 6, lines 33-36).

These agents are used by Wesley in their lightly cross-linked form wherein the cross-linking may be accomplished preferably, by the incorporation into the monomer mixture to be polymerized of known chemical cross-linking monomeric agents, typically polyunsaturated (e.g. diethylenically unsaturated) monomers, such as, for example, divinylbenzene, divinylether of diethylene glycol, N, N'-methylene- bisacrylamide, and the like. Typically, amounts of cross-linking agent to be incorporated in the final polymer may range from 0.01 to 1.5 (col. 6, lines 53-65).

In regard to the steps and mode of the process for the preparation of a composition, Wesley provides the mode wherein the crosslinked CARBOPOL copolymer, which is obtained by free radical polymerization of a corresponding monomer(s) with crosslinking agent in a solvent is mixed with an auxiliary additive and then added to an alcohol fuel to ensure the gelation.

Wesley is silent about the ratio of hydrophobic and hydrophilic groups in a polymer being 1.0 :0.1. However in the process claims it is important that the steps of the process are met by the prior art disclosure. It is axiomatic that one who performs the steps of the known process must necessarily produce all of its advantages, as per **Leinoff v. Louis Milona & Sons, Inc.** 220 USPQ 845 (CAFC 1984).

Therefore, since Wesley discloses the monomers containing both hydrophilic group and hydrophobic group, such as those referred to in col. 5, lines 53-55, namely AMPS, that means that the ratio is inherently present. The burden to show that this is not the fact is shifted to Applicants.

Response to Arguments

7. Applicant's arguments filed August 12, 2002 have been fully considered but they are not persuasive.

Relative to Marten: The crux of Applicants' arguments is that Marten does not disclose the ratio of a hydrophobic and hydrophilic groups on one and the same comonomer as being in a molar ratio of 1.0 :0.1.

In response to this, it is noted that NOR does Applicants disclose the molar ratio of hydrophilic and hydrophobic groups on one polymer. At best Applicants inherently provide for such ratio, by identifying some of the multifunctional monomers. The monomers disclosed by Marten are identical to the monomers of Applicants and therefore have the same ratio of hydrophilic and hydrophobic groups. The above rejections were made in the sense of **In re Spada**, 911 F 2d 705, 709 15 USPQ 1655, 1658 (Fed. Cir. 1990), which settles that **when** the claimed compound **are not novel**, they are not rendered patentable by recitation of properties, whether or not these properties are shown or suggested in prior art.

8. The next Applicants argument resides in contention, that the swelling step is not obvious, and that one skilled in the art would not have looked into Wesley's disclosure for adding a swelling step into the process of Marten. In response to this Applicants are

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once again directed to their own disclosure, where the Applicants refer to a typical gel containing a polymer and the alcohol. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., preparing a polymerc absorbent in situ) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Relative to Wesley:

Applicants arguments are based on the statement that Wesley does not teach or provide the ratio of hydrophilic and hydrophobic groups on the same monomer. NOR DOES the Applicant provide for such ratio. This issue was addressed in rejection under 35 USC 112, first paragraph, as well as in response to arguments over Marten. This response is incorporated herein in its entirety. It is further noted that "[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom." *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968). Applicant is reminded that if it can be logically deduced that the reference will imply something to one of ordinary skill in the art, that the reference doesn't come right out and say, then logical reasoning will make that reference evidence for its implicit disclosure, as well as for its explicit disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tatyana Zalukaeva whose telephone number is (703) 308-8819. The examiner can normally be reached on 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (703) 308-2450. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

Tatyana Zalukaeva, Ph.D.
Primary Examiner
Art Unit 1713

July 18, 2003

